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**I CLAIM:**

1. A method for modulating at least one immune cell type in a patient suffering from neutropenia or at risk of developing neutropenia, comprising administering to said patient at least one S100 protein or a derivative thereof in an amount sufficient to induce modulation of said cells.  
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2. The method of claim 1, wherein said S100 protein is a Myeloid Related Protein (MRP).
3. The method of claim 1, wherein said modulation stimulates or activates at least one of differentiation, proliferation, or migration of said immune cells.
- 10 4. The method of claim 1, wherein said immune cells are selected from the group consisting of a neutrophil, a monocyte, a macrophage, a platelet, a synoviocyte, a leukocyte and a phagocyte cell.
5. The method of claim 2, wherein said MRP is S100A8, S100A9, S100A12 or combinations thereof.
- 15 6. The method of claim 1, wherein said patient is a patient having or having had cancer.
7. The method of claim 1, wherein said patient is under or having received chemotherapy treatment.
8. The method of claim 1, wherein administration is intravenous, oral, subcutaneous, intramuscular or intraperitoneal.  
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9. A method for reducing the risk of microbial infection in a patient comprising administering an effective amount at least one S100 protein or derivatives thereof to said patient.

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10. The method of claim 9, wherein said S100 protein is a Myeloid Related Protein (MRP).

11. The method of claim 9, wherein said patient is a patient having or having had cancer.

5 12. The method of claim 9, wherein said patient is under or having received chemotherapy treatment.

13. The method of claim 9, wherein administration is intravenous, oral, subcutaneous, intramuscular or intraperitoneal.

10 14. Use of at least one S100 protein or a derivative thereof in the manufacture of a medicament for modulating at least one immune cell type in a patient.

15. The use of claim 14, wherein said S100 protein is a Myeloid Related Protein (MRP).

16. The use of claim 14, wherein said modulating stimulates or activates at least one of differentiation, proliferation, or migration of said immune cells.

15 17. The use of claim 14, wherein said immune cells are selected from the group consisting of a neutrophil, a monocyte, a macrophage, a platelet, a synoviocyte, a leukocyte and a phagocyte cell.

18. The use of claim 15, wherein said MRP is S100A8, S100A9, S100A12 or combinations thereof.

20 19. Use of at least one of a MRP or a derivative thereof in the manufacture of a medicament for reducing the risk of microbial infection in a human or an animal.

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20. The use of claim 19, wherein said modulation is stimulating or activating at least one of differentiation, proliferation, or migration of said immune cells.

21. The use of claim 19, wherein said immune cells are selected from the group consisting of a neutrophil, a monocyte, a macrophage, a platelet, a synoviocyte, a leukocyte and a phagocyte cell.

22. The use of claim 19, wherein said MRP is S100A8, S100A9, S100A12 or combinations thereof.

23. A composition for use in modulating at least one immune cell type in a patient comprising an effective amount of at least one S100 protein or derivatives thereof with a pharmaceutically acceptable carrier.

24. The composition of claim 23, wherein said S100 protein is a Myeloid Related Protein (MRP).

25. A composition for use in reducing the risk of microbial infection in a patient comprising an effective amount of at least one S100 protein or derivatives thereof with a pharmaceutically acceptable carrier.

26. The composition of claim 25, wherein said S100 protein is a Myeloid Related Protein (MRP).